

WHAT IS CLAIMED IS:

5 1. In a method for performing data communication between a mobile station and a network which have media access control sublayers, respectively, a method for branching data in a mobile communication terminal, comprising the steps of:

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10 a) allowing each of said media access control sublayers of said mobile station and network to attach logical channel types based on traffic characteristic information and a radio bearer status to a media access control header contained in data to be sent, in a data sending mode;

b) allowing each of said media access control sublayers to branch said data to be sent, to transport channels corresponding to the attached logical channel types;

15 c) allowing each of said media access control sublayers to determine logical channels corresponding to logical channel types of a media access control header contained in received data in a data receiving mode; and

20 d) allowing each of said media access control sublayers to branch said received data to said determined logical channels.

2. A method for branching data in a mobile communication terminal, as set forth in Claim 1, wherein each of said steps

5 b) and d) includes the step of allowing each of said media access control sublayers to perform a channel mapping operation in a one-to-one manner, a channel multiplexing operation in a many-to-one manner and a channel demultiplexing operation in a one-to-many manner to branch said data to be sent or said received data.

10 3. A method for branching data in a mobile communication terminal, as set forth in Claim 1, wherein said traffic characteristic information includes traffic characteristic identifiers transferred from a radio resource control layer and other upper layers.

15 4. A method for branching data in a mobile communication terminal, as set forth in Claim 3, wherein each of said traffic characteristic identifiers represents any one of random access data, synchronization data, system information, paging information, forward access grant information, short message service data, no radio bearer-type short packet data, signaling data, radio bearer-type short/long packet data, 20 multicast signaling data, multicast data and speech characteristics.

5. A method for branching data in a mobile communication

terminal, as set forth in Claim 1, wherein, in said data  
sending mode, said media access control sublayer of said  
mobile station is adapted to, if said data to be sent is  
random access data, attach a type of a common control channel  
to said media access control header contained in said data to  
be sent and map said common control channel to a random access  
channel in a one-to-one manner, said common control channel  
and random access channel being logical and transport channels  
for said random access data, respectively.

6. A method for branching data in a mobile communication  
terminal, as set forth in Claim 1, wherein, in said data  
receiving mode, said media access control sublayer of said  
mobile station is adapted to, if said logical channel types of  
said media access control header contained in said received  
data correspond respectively to a synchronization control  
channel, a broadcast control channel and a paging control  
channel, map a synchronization channel, a broadcast channel  
and a paging channel respectively to said synchronization  
control channel, broadcast control channel and paging control  
channel in a one-to-one manner to branch said received data to  
said synchronization control channel, broadcast control  
channel and paging control channel, said synchronization  
control channel and synchronization channel being logical and

transport channels for synchronization data, respectively,  
said broadcast control channel and broadcast channel being  
logical and transport channels for system information,  
respectively, said paging control channel and paging channel  
being logical and transport channels for paging information,  
respectively.

7. A method for branching data in a mobile communication  
terminal, as set forth in Claim 1, wherein, in said data  
sending mode, said media access control sublayer of said  
mobile station is adapted to, if said traffic characteristic  
information includes synchronization data, system information,  
paging information and forward access grant information  
characteristics, attach types of a synchronization control  
channel, broadcast control channel, paging control channel and  
common control channel to said media access control header  
contained in said data to be sent and map said synchronization  
control channel, broadcast control channel, paging control  
channel and common control channel respectively to associated  
transport channels in a one-to-one manner to branch said data  
to be sent, to the associated transport channels, said  
synchronization control channel, broadcast control channel,  
paging control channel and common control channel being  
logical channels for said synchronization data, system

information, paging information and forward access grant information characteristics, respectively.

5 8. A method for branching data in a mobile communication terminal, as set forth in Claim 1, wherein, in said data sending mode, said media access control sublayer of said mobile station is adapted to, if said traffic characteristic information includes random access data, short message data and no radio bearer-type short packet data characteristics, attach types of a common control channel, dedicated control channel and dedicated traffic channel to said media access control header contained in said data to be sent and multiplex said common control channel, dedicated control channel and dedicated traffic channel to a random access channel in a many-to-one manner to branch said data to be sent, to the random access channel, said common control channel, dedicated control channel and dedicated traffic channel being logical channels for said random access data, short message data and no radio bearer-type short packet data characteristics, respectively, said random access channel being a transport channel.

9. A method for branching data in a mobile communication terminal, as set forth in Claim 1, wherein, in said data

5 sending mode, said media access control sublayer of said  
mobile station is adapted to, if said traffic characteristic  
information includes signaling data and radio bearer-type  
short/long packet data characteristics, attach types of a  
dedicated control channel and dedicated traffic channel to  
said media access control header contained in said data to be  
sent and multiplex said dedicated control channel and  
dedicated traffic channel to a dedicated channel in a many-to-  
one manner to branch said data to be sent, to the dedicated  
10 channel, said dedicated control channel and dedicated traffic  
channel being logical channels for said signaling data and  
radio bearer-type short/long packet data characteristics,  
respectively, said dedicated channel being a transport  
channel.

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20 10. A method for branching data in a mobile communication  
terminal, as set forth in Claim 1, wherein, in said data  
sending mode, said media access control sublayer of said  
network is adapted to, if said traffic characteristic  
information includes forward access grant information, short  
message data and no radio bearer-type short packet data  
characteristics, attach types of a common control channel,  
dedicated control channel and dedicated traffic channel to  
said media access control header contained in said data to be

5 sent and multiplex said common control channel, dedicated  
control channel and dedicated traffic channel to a forward  
access channel in a many-to-one manner to branch said data to  
be sent, to the forward access channel, said common control  
channel, dedicated control channel and dedicated traffic  
channel being logical channels for said forward access grant  
information, short message data and no radio bearer-type short  
packet data characteristics, respectively, said forward access  
channel being a transport channel.

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15 11. A method for branching data in a mobile communication  
terminal, as set forth in Claim 1, wherein, in said data  
sending mode, said media access control sublayer of said  
network is adapted to, if said traffic characteristic  
information includes multicast signaling data and multicast  
data characteristics, attach types of a dedicated control  
channel and dedicated traffic channel to said media access  
control header contained in said data to be sent and multiplex  
said dedicated control channel and dedicated traffic channel  
20 to a downlink shared channel in a many-to-one manner to branch  
said data to be sent, to the downlink shared channel, said  
dedicated control channel and dedicated traffic channel being  
logical channels for said multicast signaling data and  
multicast data characteristics, respectively, said downlink

shared channel being a transport channel.

5 12. A method for branching data in a mobile communication  
terminal, as set forth in Claim 1, wherein, in said data  
sending mode, said media access control sublayer of said  
network is adapted to, if said traffic characteristic  
information includes signaling data and radio bearer-type  
short/long packet data characteristics, attach types of a  
dedicated control channel and dedicated traffic channel to  
10 said media access control header contained in said data to be  
sent and multiplex said dedicated control channel and  
dedicated traffic channel to a dedicated channel in a many-to-  
one manner to branch said data to be sent, to the dedicated  
channel, said dedicated control channel and dedicated traffic  
15 channel being logical channels for said signaling data and  
radio bearer-type short/long packet data characteristics,  
respectively, said dedicated channel being a transport  
channel.

20 13. In a method for performing data communication between  
a mobile station and a network which have media access control  
sublayers, respectively, a method for branching data in a  
mobile communication terminal, comprising the steps of:

a) allowing each of said media access control sublayers



of said mobile station and network to set information regarding connection between logical channels and transport channels on the basis of traffic characteristic information and a radio bearer status;

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b) allowing each of said media access control sublayers to attach logical channel types based on the set connection information to a media access control header contained in data to be sent, in a data sending mode; and

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c) allowing each of said media access control sublayers to branch said data to be sent, to transport channels corresponding to the attached logical channel types.

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14. A method for branching data in a mobile communication terminal, as set forth in Claim 13, further comprising the steps of:

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d) allowing each of said media access control sublayers to determine logical channels corresponding to logical channel types of a media access control header contained in received data in a data receiving mode; and

e) allowing each of said media access control sublayers to branch said received data to said determined logical channels.

15. A method for branching data in a mobile communication

terminal, as set forth in Claim 14, wherein each of said steps  
c) and e) includes the step of allowing each of said media  
access control sublayers to perform a channel mapping  
operation in a one-to-one manner, a channel multiplexing  
operation in a many-to-one manner and a channel demultiplexing  
operation in a one-to-many manner to branch said data to be  
sent or said received data.

16. A method for branching data in a mobile communication  
terminal, as set forth in Claim 13, wherein said traffic  
characteristic information includes traffic characteristic  
identifiers transferred from a radio resource control layer  
and other upper layers.

17. A method for branching data in a mobile communication  
terminal, as set forth in Claim 16, wherein each of said  
traffic characteristic identifiers represents any one of  
random access data, synchronization data, system information,  
paging information, forward access grant information, short  
message service data, no radio bearer-type short packet data,  
multicast signaling data, multicast data and speech  
characteristics.